UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,833	03/31/2004	Yuh-Cherng Wu	13906-156001 / 2003P00946	6487

			EXAMINER
32864	7590	11/27/2006	CONTINO, PAUL F

FISH & RICHARDSON, P.C.
PO BOX 1022
MINNEAPOLIS, MN 55440-1022

ART UNIT	PAPER NUMBER
2114	

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/814,833	WU, YUH-CHERNG
	Examiner	Art Unit	
	Paul Contino	2114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 March 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-18 and 20-26* is/are rejected.

7)☒ Claim(s) *3,19 and 27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION: Non-Final Rejection

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1.   Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "less significant" in claim 7 is a relative term which renders the claim indefinite. The term "less significant" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1, 2, 4, 9, 11-18, 20, 21, and 24-26 are rejected under 35 U.S.C. 102(b) as being

anticipated by Noel (U.S. Patent No. 6,078,189).

As in claim 1, Noel discloses a method of executing a diagnosis program including

multiple procedures wherein the diagnosis program does not specify an order in which the

procedures are executed, the method comprising:

receiving priority information specifying an order in which a plurality of automated

diagnostic procedures is to be performed in a computer system *(column 4 lines 29-31)*;

performing the plurality of automated diagnostic procedures in the specified order,

wherein each of the plurality of automated diagnostic procedures passes or fails depending on at

least one condition in the computer system *(column 4 lines 36-38, where it is inherent that in*

order for an automated diagnostic procedure test to pass/fail, it must depend on a condition);

and

updating the priority information if more than one of the plurality of automated

diagnostic procedures fail *(columns 3 and 4: Table 1, and column 4 lines 39-60)*.

As in claim 2, Noel discloses the priority information comprises a matrix with

dependency values for the plurality of automated diagnostic procedures *(columns 3 and 4 Table*

1, column 4 lines 27-37, where the tests are interpreted as being dependent on labels, stored as a

"matrix" ·in sequential storage locations).

As in claim 4, Noel discloses performing an automated remedy procedure that is associated with the failing automated diagnostic procedures *(column 5 lines 35-49, where reordering of tests in order to optimize test efficiency is interpreted as a remedy procedure)*.

As in claim 9, Noel discloses a user enters the priority information in the computer system *(column 1 lines 19-20)*.

As in claim 11, Noel discloses the priority information is received from a publisher according to a subscription *(column 1 lines 19-20 and column 6 lines 6-13, where an engineer is interpreted as a publisher and the test system is interpreted as subscription; or where the testers providing seed patterns is interpreted as a publisher and the BIST circuit is interpreted as a subscriber)*.

As in claim 12, Noel discloses the priority information is updated, further comprising publishing the updated priority information *(column 1 lines 44-47)*.

As in claim 13, Noel discloses generating the priority information using a dependency model for the automated diagnostic procedures *(column 5 lines 35-49, where the dependency model is interpreted as the calculation of probabilities)*.

As in claim 14, Noel discloses the dependency model associates at least one problem with observed data *(column 5 lines 38-41, where the probability of failing calculated from test data is interpreted as a problem associated with observed data)*.

As in claim 15, Noel discloses the dependency model associates at least two problems with the observed data and wherein the plurality of automated diagnostic procedures includes two automated diagnostic procedures designed to identify the two problems, and wherein the method further comprises deciding a relative order of the two automated diagnostic procedures using the dependency model *(column 5 lines 38-49, where the probability of failing and the amount of time to perform are interpreted as two problems, where it is interpreted that there is a respective procedure for each of the fault probability and performance time, and a relative order is determined based upon the two procedures and probability dependency model)*.

As in claim 16, Noel discloses the plurality of automated diagnostic procedures includes a first user-developed automated diagnostic procedure and a plurality of preconfigured automated diagnostic procedures, the preconfigured automated diagnostic procedures being part of a program that is configured to accept user-developed automated diagnostic procedures *(column 6 lines 6-13, where the BIST is interpreted as having preconfigured diagnostics and the seed patterns are interpreted as user-developed)*.

As in claim 17, Noel discloses the user-developed automated diagnostic procedure is a Business Add-In component *(where the seed patterns are interpreted as components of a "Business Add-In")*.

As in claim 18, Noel discloses receiving user input modifying the priority information *(column 1 lines 44-48)*.

As in claim 20, Noel discloses a computer program product tangibly embodied in an information carrier, the computer program product including instructions that, when executed, cause a processor to perform operations comprising:

receive priority information specifying an order in which a plurality of automated diagnostic procedures is to be performed in a computer system *(column 4 lines 29-31)*;

perform the plurality of automated diagnostic procedures in the specified order, wherein each of the plurality of automated diagnostic procedures passes or fails depending on at least one condition in the computer system *(column 4 lines 36-38, where it is inherent that in order for an automated diagnostic procedure test to pass/fail, it must depend on a condition)*; and

update the priority information if more than one of the plurality of automated diagnostic procedures fail *(columns 3 and 4: Table 1, and column 4 lines 39-60)*.

As in claim 21, Noel discloses performing an automated remedy procedure that is associated with the failing automated diagnostic procedure *(column 5 lines 35-49, where reordering of tests in order to optimize test efficiency is interpreted as a remedy procedure)*.

As in claim 24, Noel discloses the plurality of automated diagnostic procedures includes a first user-developed automated diagnostic procedure and a plurality of preconfigured automated diagnostic procedures, the preconfigured automated diagnostic procedures being part of a program that is configured to accept user-developed automated diagnostic procedures *(column 6 lines 6-13, where the BIST is interpreted as having preconfigured diagnostics and the seed patterns are interpreted as user-developed).*

As in claim 25, Noel discloses the user-developed automated diagnostic procedure is a Business Add-In component *(where the seed patterns are interpreted as components of a "Business Add-In").*

As in claim 26, Noel discloses the priority information comprises a matrix with dependency values for the plurality of automated diagnostic procedures *(columns 3 and 4 Table 1, column 4 lines 27-37, where the tests are interpreted as being dependent on labels, stored as a "matrix" in sequential storage locations).*

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 5 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noel in view of IBM (NNRD449113).

As in claims 5 and 22, Noel teaches of updating priority information. However, Noel fails to teach of updating priority information if the remedy procedure causes any of the other diagnostic procedures to fail. IBM teaches of updating priority information if an automated remedy procedure causes any other of the plurality of automated diagnostic procedures to fail *(where a ToBeTested status for the re-execution of dependent cells is interpreted as updating of priority information)*.

It would have been obvious to a person skilled in the art at the time the invention was made to have included the updating as taught by IBM in the invention of Noel. This would have been obvious because the updating of cells as taught by IBM ensures that further problems do not exist through execution of only a small portion of tests in a test set.

*   *   *

4.   Claims 6 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noel in view of IBM, further in view of Mayer et al. (U.S. Patent No. 6,195,763).

As in claims 6 and 23, Noel teaches of updating priority information. However, Noel fails to teach of updating priority information if the remedy procedure resolving a problem that

causes any of the other diagnostic procedures to fail. IBM teaches of updating priority

information if an automated remedy procedure causes any other of the plurality of automated

diagnostic procedures to fail *(where a ToBeTested status for the re-execution of dependent cells*

is interpreted as updating of priority information). Mayer et al. teaches of a problem that causes

other procedures to fail *(columns 2 and 4)*.

It would have been obvious to a person skilled in the art at the time the invention was

made to have included the updating as taught by IBM in the invention of Noel. This would have

been obvious because the updating of cells as taught by IBM ensures that further problems do

not exist through execution of only a small portion of tests in a test set.

It would have been obvious to a person skilled in the art at the time the invention was

made to have included the failure dependency as taught by Mayer et al. in the combined

invention of Noel and IBM. This would have been obvious because the invention of Mayer et al.

offers an efficient solution to determining the root of a fault *(column 2 lines 51-55)*. The

invention of Mayer et al. teaches that a first procedure which has a dependence on a second

procedure, such as that taught by IBM, may fail if the procedures have a mutual dependence.

*   *   *

5.   Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Noel in view of

Boden (U.S. Patent No. 5,708,774).

As in claim 8, Noel teaches of diagnostic procedures. However, Noel fails to teach of fault information. Boden teaches of an informational message, an advisory, a warning, a fatal error notification, and combinations thereof *(column 2 lines 55-57)*.

It would have been obvious to a person skilled in the art at the time the invention was made to have included the fault information as taught by Boden in the invention of Noel. This would have been obvious because the invention of Boden allows a user to determine the root of the fault during testing in order to remedy a problem.

<p align="center">*   *   *</p>

6.   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Noel in view of Perez et al. (U.S. PGPub 2002/0116666).

As in claim 10, Noel teaches of a relationship between diagnostic procedures. However, Noel fails to teach of inhibiting updates to this relationship. Perez et al. teaches of a user specifying that a relationship between at least two of the plurality of automated diagnostic procedures is not to be changed in any updates *(paragraphs [0027], [0080], and [0083], where the locking is interpreted as preventing a change in a relationship between procedures; the relationship is interpreted as the synchronization between the base and child test sequences)*.

It would have been obvious to a person skilled in the art at the time the invention was made to have included the user specification as taught by Perez et al. in the invention of Noel. This would have been obvious because the invention of Perez et al. reduces the overall size of a

testing environment, minimizes the amount of testing time, and increases the fault tolerance of a

system *(paragraphs [0019] and [0030])*.

Allowable Subject Matter

7.   Claims 3, 19, and 27 are objected to as being dependent upon a rejected base claim, but

would be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims.

The following are statements of reasons for the indication of allowable subject matter:

The inclusion of a correlation probability between diagnostic procedures to decide a

relative order, where the correlation probability is at least a threshold value, when read within the

remainder of the limitations of the respective claims, make claims 3 and 27 allowable over the

prior art.

The inclusion of the selections from a group consisting of a correlation probability

between diagnostic procedures and selecting a correlation probability between two of the

procedures not to be update, when read within the remainder of the group and claim limitations,

makes claim 19 allowable over the prior art.

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure:

        U.S. Patent No. 6,557,115 Gillenwater et al. discloses ordering based on fault prediction.

        U.S. Patent No. 6,233,701 Onoue discloses a relational table with ordering and updating.

        U.S. Patent No. 5,587,930 Hori et al. discloses a fault tree structure for diagnostics.

        U.S. Patent No. 5,414,836 Baer et al. discloses a probability tree.

        U.S. Patent No. 6,757,634 Lara discloses test case dependence.

9.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Paul Contino whose telephone number is (571) 272-3657. The

examiner can normally be reached on Monday-Friday 9:00 am - 6:00 pm.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Scott Baderman can be reached on (571) 272-3644. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PFC
11/14/2006

SCOTT BADERMAN
SUPERVISORY PATENT EXAMINER